

REMARKS

INTRODUCTION

In accordance with the foregoing, claims 43, 44, and 46 have been cancelled, claims 45, 47, and 48 have been amended, and claims 55-58 have been added. No new matter is believed to have been added, and approval and entry are respectfully requested.

Claims 45, 47, 48, and 55-58 are pending and under consideration. Reconsideration is respectfully requested.

REJECTION UNDER 35 U.S.C. §103(a)

In the Office Action at pages 6-13, claims 43-48 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,597,999 to Kinba, et al. The reasons for the rejection are set forth in the Office Action and therefore not repeated. The rejection is traversed and reconsideration is requested.

Of the rejected claims, claims 43, 44, and 46 have been cancelled, and claims 45, 47, and 48 have been amended to depend from new independent claim 55. Accordingly, Applicants respectfully submit that the rejection of claims 43-48 under 35 U.S.C. §103(a) as being unpatentable over Kinba, et al. is moot.

NEW CLAIMS 55-58

New independent claim 55 is directed to an autofocus apparatus for focusing an image of an object on a surface of an image pickup element for producing an electrical signal utilized as a picture signal. New independent claim 55 recites "a photographing optical system including a focus adjusting lens movably provided," and "a first focusing estimating device to produce focusing information on the basis of a level of a predetermined frequency component included in the electrical signal of the image pickup element." Further, new independent claim 55 recites:

a second focusing estimating device including an imaging lens to image at least a part of light of the object image, split from said photographing optical system, an image re-forming system to re-form images of light beams having passed locations different on pupil position of the imaging lens, a light receiving device to receive the light beams of the images formed by the image re-forming system, a positional deviation detecting device to detect an imaging positional deviation on the light receiving device, a memory device to store as a correction value the imaging positional deviation detected by the positional deviation detecting device when the image on the image pickup element is focused on the object image, and a correcting device to correct the imaging positional deviation

detected by the positional deviation detecting device with the correction value stored in the memory device, said second focusing estimating device generating second focusing information to focus the image of the object on said image pickup element with respect to the object.

New independent claim 55 also recites "a selecting device to select one of said first focusing estimating device or said second focusing estimating device," and "a moving device to move said focus adjusting lens on the basis of the focusing information generated by the selected focusing estimating device by said selecting device."

Thus, according to new independent claim 55, first focusing estimating device uses a "crest climbing" method utilizing the output of the image pickup element, and the second focusing estimating device uses a TTL phase difference method,

Kinba, et al., in contrast to the present invention, teaches a structure in which, after performing coarse adjustment by the phase difference AF, fine focusing adjustment is performed by the crest climbing AF. Rough distance information can be obtained using the phase difference AF.

Kinba, et al. fails to teach or suggest the use of any image pickup or imaging element, and teaches only the use of film. Thus, Kinba, et al. fails to teach or suggest the "crest climbing" method utilizing the output of the image pickup element, as in new independent claim 55.

Further, Kinba, et al. fails to teach or suggest, in the phase difference method used by the second estimating device, "a memory device to store as a correction value the imaging positional deviation detected by the positional deviation detecting device when the image on the image pickup element" is rendered in-focus with respect to the object image, as recited in independent claim 55. Additionally, Kinba, et al. also fails to teach or suggest "generating second focusing information to focus the image of the object on said image pickup element with respect to the object," as recited in independent claim 55. Thus, Applicants respectfully submit that Kinba, et al. fails to teach or suggest the second focusing estimating device of new independent claim 55.

As Kinba, et al. fails to teach or suggest all of the features of new independent claim 55, Applicants respectfully submit that new independent claim 55, and claims 45, 47, 48, and 56-58, which depend directly or indirectly therefrom, patentably distinguish over the prior art and are in condition for allowance.

CONCLUSION

In accordance with the foregoing, it is respectfully submitted that all outstanding objections and rejections have been overcome and/or rendered moot. And further, that all pending claims patentably distinguish over the prior art. Thus, there being no further outstanding objections or rejections, the application is submitted as being in condition for allowance which action is earnestly solicited.

If the Examiner has any remaining issues to be addressed or believes that the Examiner needs further clarification or understanding of the features of the claims not disclosed in Kinba et al., it is believed that prosecution can be expedited by the Examiner contacting the undersigned attorney for a telephone interview to discuss resolution of such issues.

If there are any underpayments or overpayments of fees associated with the filing of this Amendment, please charge and/or credit the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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